Code No: V3217

R07

Set No: 1

III B.Tech. II Semester Supplementary Examinations, December – 2012
TELECOMMUNICATION SWITCHING SYSTEMS
(Electronics and Communications Engineering)

Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
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1)   a) Discuss switching network configuration with a neat figures.
        b) Estimate the number of cross points required to design an exchange that support
        500 uses on a non blocking basis and 50 transit, outgoing on in covering cells
        simultaneously.

2)   a) Explain the function of space switch with a neat diagram.
        b) A 1000 inlet and 1000 outlet digital switch is to be built using TSI. Determine the
        site of the control and data memories, and the speed with which he memories have to
        be accessed.

3)   a) Discuss the focuses that limit the lamp 15 of a scribe loop.
        b) Explain the basic topologies of the routing plan.

4)   a) Draw the basic schematic of common channel signaling (CCS) and discuss the
        CCS signaling message formets
        b) An exchange saver 2500 subshibers. If the average BHCA is 12,000 and CCR is
        70%. Calculate the busy hour calling late.

5)   a) Describe the basic function of the five component of a data communication
        network?
        b) Briefly describe circuit switching and packet switching.

6)   a) Distinguish between circuit switching and packet sitching
        b) Write short notes an "WAN".

7)   a) What are the data link protocols used in ISDN ?
        b) Explain BISDN implementation in brick.

8)   Explain the following
        (i)   HFC networks
        (ii)   Different 'SONET Rates'.

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1 of 1

Code No: V3217

R07

Set No: 2

III B.Tech. II Semester Supplementary Examinations, December – 2012
TELECOMMUNICATIONS SWITCHING SYSTEMS
(Electronics and Communication Engineering)

Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
*****

1) a) Draw a block diagram showing different elements of a switching system and explain.
   b) Explain the principle of crossbar switching.

2) a) Obtain blocking probability of a three stage space devises switching network
   b) Four 32 channel TDM streams are multiplexed form are input stream of an 8 stream TS switch. Determine the cost of the configuration including that of the multiplexes.

3) a) Explain the operation of echo suppression with a neat block diagram.
   b) Explain the international telephone numbering format

4) a) Compare in channel and common channel signaling (CCS) schemes.
   b) In an exchange, the calls anise at the rate of 1100 calls per hour, with each call holding for duration of 3 minutes. If the demand is serviced by the grade of service (GOS).

5) a) Describe the seven layers of OSI Protocol hierarchy.
   b) Discuss the mentis and dements of Asynchronous protocol.

6) a) What is Internetworking? Explain in hour many ways networks differ?
   b) What is looping problem in transparent bridges? Explain how it is avoided using Spanning Algorithm.

7) a) Explain the two interface that i) used in ISDN with a neat block diagram.
   b) Discuss the function of ISDN physical layer.

8) a) Explain how the noise problem is solved in full rate ADSL?
   b) Write short notes on "DOCSIS".

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1 of 1

Code No: V3217

R07

Set No: 3

III B.Tech. II Semester Supplementary Examinations, December – 2012
TELECOMMUNICATIONS SWITCHING SYSTEMS
(Electronics and Communication Engineering)

Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
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1) a) Explain how switching systems are classified? In what way is stored program
control supesion to hardwired control
b) Draw 3X3 crossbar switching diagram and explain its working.

2) a) Design a STS switch for supporting 128 TDM tunnels each carrying a primary
CCITT channel. The blocking probability should be less than 0,002. The loading is
0,0E per Channel, what is the cost of the switch.
b) In n stage combination switching, a trade of between blocking probability and time
delay is possible. Explain.

3) a) A subscriber loop of 18 km is to be supported from an exchange that uses a 40v
battery with a 400 onm short circuit protector resistance. Electronic telephones are
used as the subscriber instruments. Determine the wire gange that needs to be used.
b) What i) echo? Explain how shirt delay and loup delay echos are controlled.

4) a) Explain the following in brief
        (i) Mulaty frequency (MF) a c signaling.
        (ii) Voice frequency (VF) signaling.
b) During a 2 hours busy period, 2400 calls arrive at the exchange. Average hold time
per call is 2 minutes . What   (i) the traffic load in
                                (ii) enlasys
                                (iii) in CSS

5) a) Draw the layered architecture of the OSI reference level and discudd the services
provided by the various layer.
b) Bring out the differences between peer to peer client/server networks and dedicated
client/server networks.

6) a) Explain the concept of virtual virvuit switching.
b) Write shot notes on "MAN".

7) a) Describe the four categories of IADN
b) Describe bearer, tele and supplementary services o ISDN.

8) Explain the following
        (i) Cabel modem
        (ii) Virtual tributaries of SONET
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Code No: V3217

R07

Set No: 4

III B.Tech. II Semester Supplementary Examinations, December – 2012
TELECOMMUNICATIONS SWITCHING SYSTEMS
(Electronics and Communication Engineering)

Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
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1)   a) Discuss the Evolution of message switching
     b) Explain the basic mechanism of 3X4 cross bar switch with a neat diagram.

2)   a) Compare time division space and time division time switching techniques
     b) Derive am expression for the blocking probability of TSTS switch if each stage is
     individually min blocking.

3)   a) Explain in detail about subscriber loop systems.
     b) Discuss the important recommendation of ITU in numveriy

4)   a) Discuss the various CCITT in channel signaling systems and signaling techniques
     b) An exchange i) disagreed to handle the 2000 calls during the busy hour. One day,
     the no of calls during the busy hour is 2200. Whet i) the resulry grade of service
     (GOS).

5)   a) Briefly descried the five basic data comm. Networks topologies with a net figures.
     b) Explain the TCP/IP protocol Medes in brief.

6)   a) Distrngrih between connection oriented and convection less service in detail.
     b) Write short note an "LAN Technologies"

7)   a) Drew the ISDN Architecture and explain the function of each unit
     b) Explain the importance of BISDN

8)   a) Explain hoe ADSL modulate a signal
     b) What is CM and CMTS? Explain.
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